Abstract of the Disclosure

METHODS FOR ALIGNING A SURFACE OF AN ACTIVE RETAINER RING WITH A WAFER SURFACE FOR CHEMICAL MECHANICAL POLISHING

10 CMP methods reduce a cause of differences between an edge profile of a chemical mechanical polished edge of a wafer and a center profile of a chemical mechanical polished central portion of the wafer within the edge. The wafer is mounted on a carrier surface of a wafer carrier so that a wafer axis of rotation is gimballed for universal movement relative to a spindle axis of rotation of a wafer spindle. An operation using a retainer ring limits wafer movement on the carrier surface perpendicular to the wafer axis. Another operation limits a direction of permitted movement between the wafer carrier and the retainer ring to only movement parallel to the wafer axis, so that a wafer plane and a retainer ing may be co-planar.